



1. CJDHP Master Plan Development and Document Organization



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Master Plan Development and Document Organization

1.1 NORTHWEST POWER AND CONSERVATION COUNCIL'S THREE-STEP PROCESS

The Northwest Power Act of 1980 directs the Northwest Power and Conservation Council (Council) to develop a program to protect, mitigate and enhance fish and wildlife of the Columbia River Basin that have been impacted by hydropower dams, and make annual funding recommendations to the Bonneville Power Administration (BPA) for projects to implement the Council's Fish and Wildlife Program. In 1997, as part of its Fish and Wildlife Program, the Council adopted a three-step review process for all "new production initiatives" in the Columbia River Basin. The Council defines new production initiatives, as they relate to artificial production, as projects that include: construction of significant new production facilities, planting fish in waters where they have not been planted before, increasing significantly the number of fish introduced, changing stocks or the number of stocks, or changing the location of production facilities.

The Council's three-step process requires all new production initiatives to follow a defined planning sequence towards eventual approval, construction and operation:

STEP 1

Completion and approval of a conceptual plan generally presented in the form of a Master Plan.

STEP 2

Development of a preliminary design with cost estimates, and completion of necessary environmental review including National Environmental Policy Act (NEPA) and Endangered Species Act (ESA).

STEP 3

Development of the final design prior to construction and operation.

In 2000 the Council amended the Fish and Wildlife Program to incorporate a set of eight scientific principles that broadly describe an ecosystem-based framework for fish and wildlife management. The amended 2000 Fish and Wildlife Program establishes a basinwide vision for fish and wildlife, biological objectives, and action strategies necessary to achieve the Council's basinwide vision. Consistent with this ecosystem-oriented approach, the Council's 2000 Fish and Wildlife Program identifies 17 topics that must be addressed in a complete Master Plan. Included within these topics are ten specific artificial production policies and related strategies.

NORTHWEST POWER AND CONSERVATION COUNCIL'S MASTER PLAN REQUIREMENTS:

1. Address the relationship and consistencies of the proposed project to the eight scientific principles outlined in the Council's Fish and Wildlife Program.
2. Describe the link of the proposal to other projects and activities in the subbasin and the desired end state condition for the target subbasin.
3. Define the biological objectives with measurable attributes that define progress, provide accountability and track changes through time associated with the project.
4. Define expected project benefits (e.g. preservation of biological diversity, fishery enhancement, water optimization, and habitat protection).
5. Describe the implementation strategies as they relate to the current conditions and restoration potential of the habitat for the target species and the life stage of interest.

6. Address the relationship of the project to the habitat strategies.
7. Ensure that cost-effective alternate measures are not overlooked and include descriptions of alternatives for resolving the resource problem, including a description of other management activities in the subbasin, province and basin.
8. Provide the historical and current status of anadromous and resident fish and wildlife in the subbasin most relevant to the proposed project.
9. Describe current and planned management of anadromous and resident fish and wildlife in the subbasin.
10. Demonstrate consistency of the proposed project with NOAA Fisheries recovery plans and other fishery management and watershed plans.
11. Describe the status of the comprehensive environmental assessment.
12. Describe the monitoring and evaluation plan associated with the project.
13. Describe and provide specific items and cost estimates for 10 fiscal years for planning and design (i.e. conceptual, preliminary and final), construction, operation and maintenance and monitoring and evaluation.
14. Address the relation and link to the Council's artificial production policies and strategies.
15. Provide a completed Hatchery and Genetic Management Plan (HGMP) for the target population(s).
16. Describe the harvest plan.
17. Provide a conceptual design of the proposed facilities, including an assessment of the availability and utility of existing facilities.

This Chief Joseph Dam Hatchery Program Master Plan is the Colville Tribes' Step 1 submittal describing the artificial propagation facilities necessary to implement a comprehensive management program for summer/fall Chinook salmon, and possibly also spring Chinook salmon, in the Okanogan¹ River and the Columbia River above Wells Dam. In responding to the Council's 17 Master Plan requirements, this Master Plan also places the proposed Chief Joseph Dam Hatchery Program within the ecological context of the Okanogan subbasin, and the Columbia Basin.

Responses to the Council's 17 Master Plan requirements are presented in the content of this Master Plan. The specific locations of these responses within this Master Plan is summarized in Chapter 3.

1.2 PROJECT HISTORY AND MASTER PLAN DEVELOPMENT

In developing this Master Plan the Colville Tribes chose specifically to incorporate the word "Program" into the title – Chief Joseph Dam Hatchery Program. This is a minor, but important, distinction. Although the Chief Joseph Dam Hatchery facilities described in this Master Plan are a critical element of this proposal, it is essential that reviewers understand the broader programmatic goals and context of the proposal. The Chief Joseph Dam Hatchery Program (CJDHP) is designed to implement a **comprehensive management program** for summer/fall Chinook, and possibly spring Chinook, in the Okanogan subbasin and in the Columbia River immediately below Chief Joseph Dam that is directly tied to the ecosystem within which it will be implemented.

The necessary facilities, programmatic goals, and related context of the CJDHP are described in detail in this Master Plan and in the accompanying appendices. The project history underlying development of this Master Plan also reflects the proposal's broad programmatic focus.

1.2.1 PROJECT HISTORY

Since the early 1990s, when new ESA listings of Columbia Basin salmon began to accumulate in file cabinets and courtrooms - federal, state and tribal scientists and policy makers throughout the region have tried to identify ways to stop the alarming and seemingly relentless slide towards extinction of one salmon population after another.

The Okanogan subbasin currently represents the uppermost limit of anadromous fish in the Columbia

¹ The word Okanogan/Okanagan is spelled differently in the U.S. and Canada. In this document the U.S. spelling of Okanogan is used when referring to locations on the U.S. side of the border. The Canadian spelling, Okanagan, is used when referring to locations on the Canadian side of the border or to members of the Canadian First Nations.

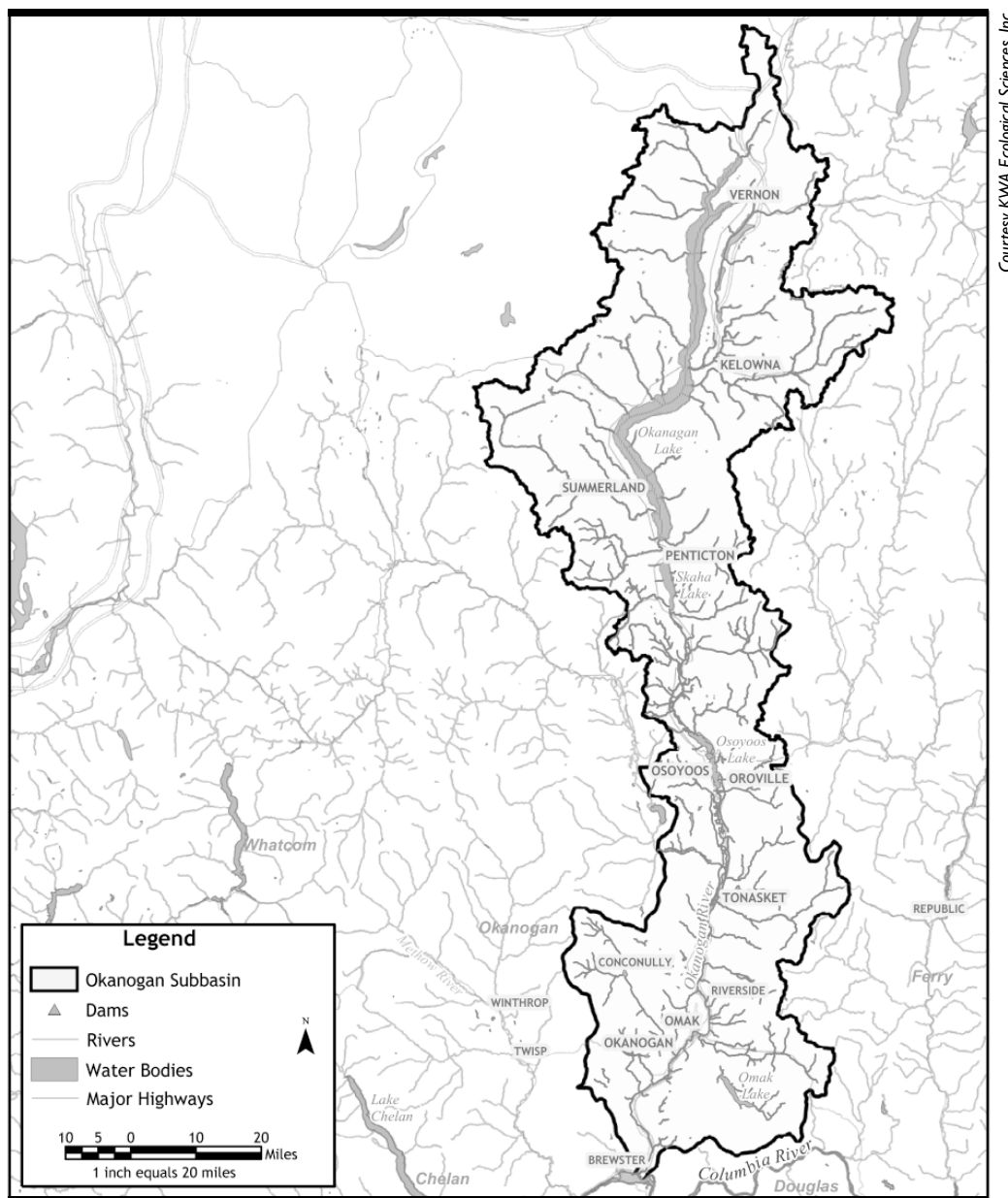


FIGURE 1: Okanogan Subbasin

River. Unfortunately, over the last century and a half, the once abundant salmon runs of the Okanogan subbasin have been reduced to sad remnants of their former glory. The Upper Columbia River Summer Steelhead and Upper Columbia River Spring Chinook are currently listed as endangered and the long-term future of other local species is uncertain. In spite of the urgency of protecting and restoring these fragile remaining upper Columbia River anadromous fish populations, funding for protection, mitigation and enhancement projects in the Okanogan subbasin over the last decade has been chronically inadequate. In the Council's 2003 rolling provincial review approximately

51 new projects were proposed for funding in the Columbia Cascade Province. Of those 51 project proposals, only a handful were funded for implementation in spite of the fact that the majority of projects received favorable reviews from the Council, the Independent Science Review Panel (ISRP) and the Columbia Basin Fish and Wildlife Authority (CBFWA).

The Colville Tribes has over the course of the last decade focused significant resources on protection and restoration of anadromous fish in the Okanogan subbasin. These efforts have included implementation of habitat protection and restoration actions, supple-

mentation/enhancement activities, public education, watershed planning, and development of coordinated monitoring and evaluation programs [for examples of specific projects and activities see Chapter 6].

1.2.1.1 Project Chronology

In early 2001, the Colville Tribes initiated the preparation of draft HGMPs to guide the management of summer/fall and spring Chinook in the Okanogan subbasin. The Colville Tribes viewed the development of the HGMPs as an opportunity to better coordinate and improve management of key anadromous populations in the Okanogan subbasin. Regional fishery managers including Washington Department of Fish and Wildlife (WDFW), and U.S. Fish and Wildlife Service (USFWS), worked collaboratively with the Colville Tribes to develop and review the resulting draft summer/fall Chinook and spring Chinook HGMPs.

Information gleaned through the development of these two HGMPs pointed clearly to a need for additional artificial propagation facilities to meet Chinook salmon conservation and harvest objectives in the Okanogan River, and in the upper Columbia River above Wells Dam. In the process of developing the HGMPs, the inadequacy of the existing Okanogan subbasin Chinook artificial propagation facilities to address the troubled status of current Chinook populations in the upper Columbia River, the high mortalities exacted by nine downstream hydroelectric facilities, and substantial unmet mitigation and trust obligations - became increasingly evident. The impetus to develop the CJDHP Master Plan flowed from the Colville Tribes' desire to find effective means to address these shortfalls.

The draft Chinook HGMPs, and the collaborative process through which they were reviewed and developed provide the foundation for the CJDHP Master Plan proposal².

The development of the Mid-Columbia Habitat Conservation Plan (HCP) also provided an additional source of technical and management input in the development of the CJDHP. Mid-Columbia HCP negotiations began in 1993 and at the outset included

NOAA Fisheries, USFWS, WDFW, Chelan County and Douglas County Public Utility Districts (PUDs), the Colville, Umatilla and Yakama Tribes, American Rivers, and relevant power purchasers. The Mid-Columbia HCP includes production goals intended to conserve low-risk, natural-origin populations and support recovery of listed species. Information developed in support of the HCP process was valuable to the design of the CJDHP [additional discussion of the contents of the Mid-Columbia HCP is included in the Chapter 6].

In December 2001, in response to a BPA solicitation for project proposals in the Columbia Cascade Province, the Colville Tribes submitted a suite of proposals designed to systematically address habitat restoration, fish propagation, fish harvest, and research monitoring and evaluation needs in the Okanogan subbasin. Included in that package were the following interrelated fish propagation and harvest proposals:

PROJECT 29050

Phase I Okanogan River Spring Chinook Production

PROJECT 29042

Selective Fish Collection and Harvesting Gear

PROJECT 29008

Adult Fish Counting and Trapping at Zosel Dam

PROJECT 29033

Design and Conduct Monitoring and Evaluation Associated with Reestablishment of Okanogan Subbasin Natural Production

PROJECT 29040

Develop and Propagate Local Okanogan River Summer/Fall Chinook

PROJECT 29051

Develop Local Okanogan River Steelhead Broodstock

PROJECT 29007

Okanogan Kelt Reconditioning

² At the time this Master Plan is being developed both the summer/fall and spring Chinook HGMPs are in the Phase II NOAA Fisheries' review process.

These proposals were reviewed by the ISRP, underwent a “fix-it loop” comment and revisions process, followed by a final ISRP review in June 2002. In the interim BPA in response to substantial fiscal shortfalls triggered in part by the West Coast energy crisis, and existing funding obligations in other Provinces imposed significant limitations on funds available for project implementation across the entire Columbia Basin. In responding to the diminished available funding, the Council and BPA asked co-managers and project proponents to prioritize projects for immediate and secondary funding. As part of this process the Colville Tribes were also asked to separate out the previously aggregated and complimentary projects proposed for funding under the 2001 Columbia Cascade Provincial review.

In October 2002, the Council approved the Colville Tribes’ Project 29040 to develop a Step 1 CJDHP Master Plan for summer/fall Chinook. However, as part of their broader anadromous fish recovery objectives, and consistent with the need articulated through the spring Chinook HGMP, the Colville Tribes also wish to implement a comprehensive spring Chinook program in the Okanogan subbasin³. In addition, the original 2001 proposal package included research critical to the success of both the conservation and harvest components of the proposed CJDHP, including testing of live-capture, selective fish collection and harvest gear.

The Council’s staff and BPA representatives agreed that in addition to the conceptual design for hatchery facilities necessary for production of summer/fall Chinook, the Step 1 Master Plan could propose:

- 1) A conceptual design for separable spring Chinook hatchery facilities.
- 2) Research and associated budgets necessary to gather information in Step 2, which would be critical to final design of Chief Joseph Dam Hatchery if it progresses to Step 3.

The Colville Tribes, Council’s staff, and BPA representatives agreed that inclusion of this additional information at the Step 1 Master Plan stage would be benefi-

cial to both plan reviewers and decision-makers. Moreover, all parties recognized that potential cost efficiencies might be secured through early identification of design and construction alternatives associated with the spring Chinook components of the CJDHP proposal.

In April 2003, BPA agreed to fund development of the CJDHP Master Plan. Then in July 2003, BPA negotiated a contract with the Colville Tribes to develop a CJDHP Master Plan.

1.2.1.2 Master Plan Project Scope

The final contract was to develop a CJDHP Master Plan that, in addition to the summer/fall Chinook, included conceptual design of separable spring Chinook facilities. All parties agreed at that time that further planning of the hatchery to produce spring Chinook would be considered by the Council and BPA in the course of reviewing the completed Step 1 Master Plan, and that a decision regarding development of further detailed spring Chinook design work as part of the Step 2 process would be contingent on the outcome of the Step 1 Master Plan review. No BPA funds were used to develop the spring Chinook HGMP.

Towards this end, information relevant to the proposed CJDHP spring Chinook programs is presented separately in Chapter 13. Spring Chinook conceptual design costs are also presented as separate elements in Appendix B.

The approved scope of work to develop, produce and present a completed CJDHP Master Plan to the Council for review included 13 tasks. In addition, the CJDHP scope of work identified specific tasks necessary to complete Step 2 and 3, although this work is not funded under the existing contract and would be contingent upon approval of the Master Plan and development of new contracts.

The tasks and anticipated time frame for completion of each step are listed on the following page:

³ The proposed spring Chinook programs include an integrated recovery program and isolated harvest program to be implemented within the Okanogan subbasin and in the Columbia River between the confluence with the Okanogan River and the base of Chief Joseph Dam.

STEP 1 - MASTER PLAN DEVELOPMENT AND SUBMITTAL (2003 TO 2005)

Estimated time frame:

- Approximately 13 months to develop complete CJDHP Step 1 Master Plan (includes selection of contractors, development of subcontracts, development of Master Plan pieces, and writing and production of final Master Plan and accompanying documents)
 - Approximately 7 months from time the Master Plan is submitted to the Council, to the time the Council reaches a decision on the Master Plan (the 7 month time frame includes presentation of Master Plan to the Council, ISRP review and response loop, development of a Council Issue Paper, release of the Master Plan for public review and comment, Council staff summary of comments received and review of potential alternatives, and a final decision by the Council)
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1. Initiate project management and administration activities including development of a contract with BPA and subcontracts necessary to complete the CJDHP Master Plan.
2. Establish a multi-disciplinary Steering and Design Committee to assist in project development and review.
3. Confirm quantities and quality of water supplies for the Chief Joseph Dam Hatchery (relief tunnel water, ground water, and Rufus Woods Lake subsurface water) prior to initiating development of the conceptual design. Develop conceptual designs for collection and conveyance of relief tunnel water supply and water supply from Rufus Woods Lake.
4. Include unique elements of the CJDHP Master Plan in the Okanogan River summer/fall Chinook HGMP. (Similar work on the Okanogan River spring Chinook HGMP will be completed at no cost to BPA.)
5. Coordinate with federal and Public Utility District (PUD) partners to ensure consistency of the CJDHP with Chinook salmon mitigation agreements in the Okanogan and Columbia rivers.
6. Propose and negotiate long-term agreements for use of existing Oroville-Tonasket Irrigation District settling ponds as fish acclimation facilities.

7. Develop a plan and associated budget to investigate a broodstock collection program to support development of a unique summer/fall Chinook broodstock for the Okanogan River.
8. Develop a plan and budget for a baseline data collection program to address uncertainties (run timing versus spawn timing and location) critical to the conceptual design of the Chief Joseph Dam Hatchery.
9. Based on the Council's Master Plan requirements, prepare a conceptual monitoring and evaluation plan based on performance indicators identified in the HGMPs.
10. Assist BPA in determining the best NEPA strategy (Step 2) to use for the CJDHP. Coordinate Phase I public processes for consideration in later NEPA activities.
11. Competitively contract for bioengineering work to prepare the Chief Joseph Dam Hatchery conceptual design based on the summer/fall Chinook HGMP and to include optional facilities for spring Chinook.
12. Contract for preparation of a CJDHP summary document to complete the Master Planning package.
13. Submit the complete CJDHP Master Plan to the Council. Coordinate with Council staff to provide necessary support and follow-up for the Master Plan review.

STEP 2 - DESIGN AND ENVIRONMENTAL REVIEW (2005 - 2007)

Estimated time frame:

- Approximately 15 to 20 months (does not include Council review time)
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1. Project management and administration.
 2. Continue Steering and Design Committee with altered membership as necessary to meet requirements of Step 2.
 3. Continue contract for bioengineering work to prepare the Chief Joseph Dam Hatchery design.
 4. Contract for NEPA and other environmental review work.
 5. Conduct a cultural survey.
 6. Prepare a Biological Assessment for NOAA Fisheries and USFWS, ESA review.
 7. Obtain water appropriation and water discharge

permits necessary to use the Oroville-Tonasket Irrigation District settling ponds for fish acclimation facilities.

8. Implement research on critical uncertainties that will impact the design of Chief Joseph Dam Hatchery.
9. Implement testing of broodstock collection gear.

STEP 3 - FINAL DESIGN (2007 TO 2008)

Estimated time frame:

- Approximately 12 to 14 months (does not include Council review time)

1. Project management and administration.
2. Continue Steering and Design Committee with altered membership as necessary to meet requirements of Step 3.
3. Implement research on critical uncertainties that will impact the Chief Joseph Dam Hatchery design, as needed.
4. Implement testing of broodstock collection gear, as needed.
5. Submit final design of Chief Joseph Dam Hatchery for Council, BPA and other partner approval for construction.

The CJDHP Master Plan is constructed from five core building blocks. These include the Okanogan River Summer/Fall Chinook Salmon HGMP, Okanogan River Spring Chinook Salmon HGMP, Chief Joseph Dam Water Supply Report, Chief Joseph Dam Hatchery Conceptual Design, and a CJDHP Conceptual Monitoring and Evaluation Plan. In addition, per the agreement expressed in the scope of work, two complimentary research reports, one dealing with broodstock collection, and a second dealing with radio-telemetry, were developed for inclusion with this Master Plan.

In 2003, the Colville Tribes secured the services of a project manager and administrator to coordinate development and integration of the CJDHP Master Plan parts and to shepherd the Step I Master Planning process through to its conclusion. Subcontractors were selected (through RFP and sole sourcing) to

develop, update or modify the core documents and complementary reports in the Master Plan. The following list outlines the major areas of project responsibility and associated contractors:

PROJECT RESPONSIBILITY & CONTRACTOR

Project management and administration, development of cost estimate framework and documentation.

D.J. Warren and Associates Inc. - Dan Warren

Development and review of summer/fall and spring Chinook HGMPs, technical and policy review of CJDHP components, and overall document review.

S.H. Smith Fisheries Consulting Inc. - Stephen Smith

Development of the water supply report.

U.S. Army Corps of Engineers - Joe Wright

U.S. Army Corps of Engineers coordination and support, fish passage consultation.

Fish Passage Solutions - John McKern

Conceptual design of CJDHP facilities including: Chief Joseph Dam Hatchery, new acclimation ponds, and modifications to existing acclimation ponds.

Tetra Tech/KCM - John McGlenn, Jim McCall, Darrel Nice, Don Beard, John Burke, and Irv Brock

Research plan for testing live-capture selective fishing gear for broodstock collection.

Mobrand Biometrics Inc. - Lars Mobrand and Kevin Malone

Research plan to assess behavior of adult summer/fall Chinook upstream of Wells Dam using radio-telemetry.

BioAnalysts, Inc. - John Stevenson and Albert Giorgi

Design of a conceptual monitoring and evaluation plan.

KWA Ecological Sciences Inc. - Keith Wolf and Paul Wagner

Writing/editing of the CJDHP Volume I Master Plan document and production of final Master Plan package.

Ziji Creative Resources Inc. - Alison Squier



Alison Squier

Figure 2: Photo CJDHP Steering and Design Committee Planning Meeting

Beginning in 2003, the Colville Tribes identified potential members to populate a multi-disciplinary Steering and Design Committee. In late August of 2003, this multi-disciplinary committee was formally established to assist in project development and review⁴. Steering and Design Committee members included the core group of subcontractors, hatchery and fishery personnel from the Colville Tribes, representatives from the U.S. Army Corps of Engineers, and other individuals with expertise relevant to the project. This committee met formally three times during the course of the Master Plan development to review and discuss the Master Plan components, and in particular, to review the evolving conceptual design of the facilities. In addition, select members of the Steering and Design Committee met frequently in informal subcommittees, participated in site visits, and participated in a tour of relevant locations in the Okanogan subbasin. During this process the Colville Tribes also sought input from BPA representatives and Council staff in the development of the Master Plan outline, planning meetings, and draft reviews.

1.2.2 CHIEF JOSEPH DAM HATCHERY PROGRAM GUIDING PRINCIPLES

At the outset of the planning process, the Colville Tribes identified a set of “CJDHP Guiding Principles”. All aspects of the CJDHP Master Plan proposal - from project coordination, conceptual design, to development of the complete Step 1 Master Plan - are consistent with these guiding principles. The Colville

Tribes are committed to maintaining consistency with these principles throughout development, approval, and eventual construction and operation of the CJDHP.

CJDHP GUIDING PRINCIPLES:

ACCOUNTABILITY

Do what is promised on time and on budget. Eliminate project “morph,” which is defined in this context as the tendency of projects to expand in scope, increase in cost, and float beyond deadlines. Maintain consistency throughout the project to a clearly articulated progression from conception, to development, to execution, and finally - completion.

BEST AVAILABLE SCIENCE

Use best available scientific knowledge in all aspects of program planning, design, and implementation. Contribute to investigation of critical uncertainties through effective monitoring and evaluation, good documentation, timely reporting, and thoughtful analysis.

COST-EFFECTIVENESS

Choose the least-cost option whenever practical. Seek cost efficiencies and opportunities to share costs where possible. Build value analysis (value engineering) and other cost control mechanisms into the project planning and design from day one.

FLEXIBILITY

Build flexibility and adaptability into program elements. Design flexibility in facilities, particularly where it supports cost-effective approaches. Build program’s components to accommodate adaptation or if necessary, termination, as new information becomes available.

INNOVATION

Seek innovative solutions and opportunities in planning, design and program implementation.

Throughout this Master Plan the CJDHP project components are referenced against these five guiding principles.

⁴ Steering committee members and their affiliations are identified in Appendix I

Relationship of Master Plan Development to CJDHP Guiding Principles



Accountability

- Master Plan document developed within the identified time frame and budget
- Master Plan addresses all Council criteria



Best Available Science

- Consistent with Council's guidelines
- Consistent with ISAB recommendations
- Includes consideration of ISRP reviews of other production facilities, projects, and of research, monitoring and evaluation plans in the Columbia Basin
- Consistent with NOAA Fisheries guidance
- Incorporates broad review of current artificial production literature



Cost-Effectiveness

- Use of existing HGMPs as foundation of Master Plan
- Allegiance to clear project progression (conceive, design, execute, complete)



Flexibility

- Inclusion of spring Chinook components as separate chapter and of separable spring Chinook budget elements to facilitate flexibility for decision-makers



Innovation

- Approach to Master Plan development included interdisciplinary team involvement and review throughout process

tial benefits and impacts of the proposed CJDHP. A great deal of interest and regional support for the project was expressed in these meetings. The Colville Tribes requested and received letters of support for the CJDHP from a number of organizations.

At the time this Master Plan was in the final stages of production, letters of support had been received from: City of Bridgeport, City of Okanogan, City of Omak, City of Oroville, City of Pateros, Northwest Sportfishing Industry Association, Okanogan Conservation District, Okanogan Nation Alliance, Okanogan County Board of Commissioners, Oroville-Tonasket Irrigation District, U.S. Army Corps of Engineers, and Washington Department of Fish and Wildlife. Copies of these letters are attached in Appendix A.

1.3 OVERVIEW OF MASTER PLAN DOCUMENT ORGANIZATION

The CJDHP Master Plan is presented in two volumes. Volume 1 was developed specifically to address the Council's 17 Master Plan requirements and to provide a comprehensive overview of the CJDHP. Volume 2 consists of a set of appendices that provide the substantive detail behind the Master Plan document. The information presented in Volume 2 provides a great deal of supporting technical detail, as well as programmatic and historical information that in sum will contribute significantly to reviewer's understanding of the proposed CJDHP. The two volumes are bound separately to facilitate reviewers making use of both resources interactively (electronic versions of both volumes have also been provided).

Substantial portions of the information presented in the Volume 1 Master Plan are drawn directly from the appendices included in Volume 2. Where appropriate, throughout Volume 1 the reader is referred to documents contained in the Volume 2 appendices. In particular, references to the summer/fall or spring Chinook HGMPs are indicated where relevant in Volume 1.

To aid reviewers references to chapters within the Master Plan document, or to the appendices included in either Volume 1 or Volume 2 are displayed in

1.2.3 REGIONAL SUPPORT FOR CHIEF JOSEPH DAM HATCHERY PROGRAM

Beginning in March 2004, the Colville Tribes conducted a series of informational presentations to local county and city governments, state agencies, regional salmon recovery boards, and other Okanogan subbasin stakeholders, to brief them on the CJDHP Master Plan proposal. These presentations included an overview of the desired outcomes, program structure, and poten-

brackets. All other literature references are presented in parenthesis. Throughout the document references to the Okanogan River Summer/Fall Chinook HGMP are abbreviated as *SF HGMP*. References to the Okanogan River Spring Chinook HGMP are abbreviated as *SP HGMP*.

1.3.1 VOLUME 1. MASTER PLAN

Following this introductory chapter, chapters 2 and 3 summarize information related to the Council's three-step process and requirements. Chapter 2 includes a summary of necessary Step 2 decisions. This includes a brief list of information needs that are critical to the next planning stages. This information is included to help define the limits of the decisions being made at Step 1, acknowledge areas where substantial uncertainty exists, and identify how those uncertainties would be addressed in Step 2. Chapter 3 compares the CJDHP with the Council's 17 Master Planning requirements and other significant regional guidance.

Chapters 4 through 7 establish the historical, ecological, management and biological context for the CJDHP. Chapter 4 outlines the historical and legal rationale for the CJDHP. The information presented in this chapter includes historical information about the Colville Tribes, an overview of the decline and extirpation of salmon populations in the Upper Columbia and Okanogan subbasin, discussion of the impact of those losses on the Colville Tribes, and an explanation of the inadequacy of historical and current mitigation in the Upper Columbia. Chapter 5 sets out the ecological justification for the summer/fall Chinook programs including a life history overview; historical and current artificial production, distribution, and harvest information; and a summary of current limiting factors. Chapter 6 places the CJDHP proposal within the broader context of the Okanogan subbasin. This chapter provides a description of the subbasin; current and ongoing planning and management activities; and highlights of ongoing and recent habitat protection and restoration, salmon enhancement, watershed planning, public education, and research, monitoring and evaluation activities relevant to the CJDHP. Chapter 7 establishes the CJDHP within a larger regional context.

Chapter 8 presents a review of alternatives that were considered in the course of developing and selecting

the summer/fall Chinook options presented in the CJDHP.

Chapters 9, 10 and 11 get to the nuts and bolts of the programs, monitoring and evaluation activities, and facilities. Chapter 9 describes the CJDHP summer/fall Chinook programs. This overview includes the integrated recovery and harvest programs, program goals and actions, potential ecological and genetic effects of the CJDHP, and program contingencies and adaptation loops. Chapter 10 provides a sketch of the conceptual monitoring and evaluation program including examples of sample objectives, and linkages to other local and regional monitoring and evaluation efforts. Chapter 11 describes the conceptual design of the new summer/fall Chinook artificial production facilities and necessary modifications to existing facilities. This chapter also includes descriptions of the water supply for the Chief Joseph Dam Hatchery, general site considerations, and descriptions of support facility requirements.

Chapter 12 presents the estimated program costs associated with the various elements of the CJDHP summer/fall Chinook programs. This chapter includes "roll ups" of estimated costs for planning and design (conceptual, preliminary and final), construction, operations and maintenance, and monitoring and evaluation, including estimated cost projections extending out ten fiscal years.

Chapter 13, consistent with the agreement reached by the Council's staff, BPA representatives, and the Colville Tribes, includes an overview of the proposed CJDHP spring Chinook program components. This chapter includes a review of the rationale for including spring Chinook in the CJDHP, local and regional context with specific relevancy to the spring Chinook programs, a review of the alternatives considered in development of the spring Chinook program, an abbreviated description of the spring Chinook programs being proposed for inclusion in the CJDHP, descriptions of the separable spring Chinook facilities for Chief Joseph Dam Hatchery, and cost estimates specific to the spring Chinook components of the CJDHP.

Finally, chapter 14 consists of references to literature cited in Volume 1.

I.3.2 VOLUME 2. APPENDICES

Volume 2 includes nine appendices. Appendix A contains regional letters of support for the CJDHP. Appendix B consists of a very detailed series of spreadsheets that break down cost estimates for all aspects of the CJDHP and provide justification for those estimates. Appendix C and D are respectively, the Okanogan River Summer/Fall Chinook Salmon Hatchery Genetic Management Plan, and the Okanogan River Spring Chinook Salmon Hatchery Genetic Management Plan. Appendix E contains two reports, outlining proposed research that is critical to the CJDHP: one is a detailed research plan to assess behavior of adult summer/fall Chinook upstream of Wells Dam using radio-telemetry techniques, the other presents a research plan to test live-capture, fishing gear for summer/fall Chinook broodstock collection in the Okanogan, Similkameen and Columbia rivers. Appendix F is the Chief Joseph Dam Hatchery Water Supply Report. Appendix G is the CJDHP conceptual design for the hatchery facility and necessary modifications of existing facilities. Appendix H is the conceptual design for the CJDHP monitoring and evaluation program. Lastly, Appendix I lists members of the CJDHP Steering and Design Committee.